

| L Number | Hits | Search Text | DB | Time stamp |
|----------|------|--|---|------------------|
| 1 | 2529 | ((568/644) or (568/646) or (568/648) or (568/322) or (568/315) or (568/316) or (568/318) or (568/323) or (568/324)).CCLS. | USPAT; US-PGPUB; EPO; JPO; DERWENT | 2004/03/16 05:49 |
| 2 | 1456 | "2,3-dichloro-5,6-dicyano-1,4-benzoquinone" | USPAT; US-PGPUB; EPO; JPO; DERWENT | 2004/03/16 05:49 |
| 3 | 2362 | dichlorodicyanoquinone or ddq! | USPAT; US-PGPUB; EPO; JPO; DERWENT | 2004/03/16 05:50 |
| 4 | 18 | ((568/644) or (568/646) or (568/648) or (568/322) or (568/315) or (568/316) or (568/318) or (568/323) or (568/324)).CCLS.) and ("2,3-dichloro-5,6-dicyano-1,4-benzoquinone" or (dichlorodicyanoquinone or ddq!)) | USPAT; US-PGPUB; EPO; JPO; DERWENT | 2004/03/16 06:06 |
| 5 | 67 | "2,4,5-trimethoxyphenylpropane" or "1-propyl-2,4,5-trimethoxybenzene" or neolignan | USPAT; US-PGPUB; EPO; JPO; DERWENT | 2004/03/16 06:07 |
| 6 | 10 | ("2,4,5-trimethoxyphenylpropane" or "1-propyl-2,4,5-trimethoxybenzene" or neolignan) and ("2,3-dichloro-5,6-dicyano-1,4-benzoquinone" or (dichlorodicyanoquinone or ddq!)) | USPAT; US-PGPUB; EPO; JPO; DERWENT | 2004/03/16 06:07 |

| L Number | Hits | Search Text | DB | Time stamp |
|----------|------|--|---|------------------|
| 1 | 24 | sinha-arun-kumar.in. or joshi-bhupendra-prasad.in. or acharya-ruchi.in. | USPAT; US-PGPUB; EPO; JPO; DERWENT | 2004/03/16 06:56 |

10/660,556

Connecting via Winsock to STN

Welcome to STN International! Enter x:x

LOGINID:SSSPTA1204RXW

PASSWORD:

TERMINAL (ENTER 1, 2, 3, OR ?):2

* * * * * Welcome to STN International * * * * *

| | | | |
|------|---------|--------|--|
| NEWS | 1 | | Web Page URLs for STN Seminar Schedule - N. America |
| NEWS | 2 | | "Ask CAS" for self-help around the clock |
| NEWS | 3 | SEP 09 | CA/CAPLUS records now contain indexing from 1907 to the present |
| NEWS | 4 | DEC 08 | INPADOC: Legal Status data reloaded |
| NEWS | 5 | SEP 29 | DISSABS now available on STN |
| NEWS | 6 | OCT 10 | PCTFULL: Two new display fields added |
| NEWS | 7 | OCT 21 | BIOSIS file reloaded and enhanced |
| NEWS | 8 | OCT 28 | BIOSIS file segment of TOXCENTER reloaded and enhanced |
| NEWS | 9 | NOV 24 | MSDS-CCOHS file reloaded |
| NEWS | 10 | DEC 08 | CABA reloaded with left truncation |
| NEWS | 11 | DEC 08 | IMS file names changed |
| NEWS | 12 | DEC 09 | Experimental property data collected by CAS now available in REGISTRY |
| NEWS | 13 | DEC 09 | STN Entry Date available for display in REGISTRY and CA/CAPLUS |
| NEWS | 14 | DEC 17 | DGENE: Two new display fields added |
| NEWS | 15 | DEC 18 | BIOTECHNO no longer updated |
| NEWS | 16 | DEC 19 | CROPU no longer updated; subscriber discount no longer available |
| NEWS | 17 | DEC 22 | Additional INPI reactions and pre-1907 documents added to CAS databases |
| NEWS | 18 | DEC 22 | IFIPAT/IFIUDB/IFICDB reloaded with new data and search fields |
| NEWS | 19 | DEC 22 | ABI-INFORM now available on STN |
| NEWS | 20 | JAN 27 | Source of Registration (SR) information in REGISTRY updated and searchable |
| NEWS | 21 | JAN 27 | A new search aid, the Company Name Thesaurus, available in CA/CAPLUS |
| NEWS | 22 | FEB 05 | German (DE) application and patent publication number format changes |
| NEWS | 23 | MAR 03 | MEDLINE and LMEADLINE reloaded |
| NEWS | 24 | MAR 03 | MEDLINE file segment of TOXCENTER reloaded |
| NEWS | 25 | MAR 03 | FRANCEPAT now available on STN |
| NEWS | EXPRESS | | MARCH 5 CURRENT WINDOWS VERSION IS V7.00A, CURRENT MACINTOSH VERSION IS V6.0b(ENG) AND V6.0Jb(JP), AND CURRENT DISCOVER FILE IS DATED 3 MARCH 2004 |
| NEWS | HOURS | | STN Operating Hours Plus Help Desk Availability |
| NEWS | INTER | | General Internet Information |
| NEWS | LOGIN | | Welcome Banner and News Items |
| NEWS | PHONE | | Direct Dial and Telecommunication Network Access to STN |
| NEWS | WWW | | CAS World Wide Web Site (general information) |

Enter NEWS followed by the item number or name to see news on that specific topic.

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agreement. Please note that this agreement limits use to scientific research. Use for software development or design or implementation of commercial gateways or other similar uses is prohibited and may result in loss of user privileges and other penalties.

* * * * * STN Columbus * * * * *

FILE 'HOME' ENTERED AT 06:40:02 ON 16 MAR 2004

=> FIL STNGUIDE

COST IN U.S. DOLLARS

SINCE FILE

TOTAL

ENTRY

SESSION

FULL ESTIMATED COST

0.21

0.21

FILE 'STNGUIDE' ENTERED AT 06:40:30 ON 16 MAR 2004

USE IS SUBJECT TO THE TERMS OF YOUR CUSTOMER AGREEMENT

COPYRIGHT (C) 2004 AMERICAN CHEMICAL SOCIETY, JAPAN SCIENCE

AND TECHNOLOGY CORPORATION, AND FACHINFORMATIONSZENTRUM KARLSRUHE

FILE CONTAINS CURRENT INFORMATION.

LAST RELOADED: Mar 12, 2004 (20040312/UP).

=> file reg

COST IN U.S. DOLLARS

SINCE FILE

TOTAL

ENTRY

SESSION

FULL ESTIMATED COST

0.36

0.57

FILE 'REGISTRY' ENTERED AT 06:44:00 ON 16 MAR 2004

USE IS SUBJECT TO THE TERMS OF YOUR STN CUSTOMER AGREEMENT.

PLEASE SEE "HELP USAGETERMS" FOR DETAILS.

COPYRIGHT (C) 2004 American Chemical Society (ACS)

Property values tagged with IC are from the ZIC/VINITI data file provided by InfoChem.

STRUCTURE FILE UPDATES: 15 MAR 2004 HIGHEST RN 663595-21-9

DICTIONARY FILE UPDATES: 15 MAR 2004 HIGHEST RN 663595-21-9

TSCA INFORMATION NOW CURRENT THROUGH JANUARY 6, 2004

Please note that search-term pricing does apply when conducting SmartSELECT searches.

Crossover limits have been increased. See HELP CROSSOVER for details.

Experimental and calculated property data are now available. For more information enter HELP PROP at an arrow prompt in the file or refer to the file summary sheet on the web at:

<http://www.cas.org/ONLINE/DBSS/registryss.html>

=>Testing the current file.... screen

ENTER SCREEN EXPRESSION OR (END):end

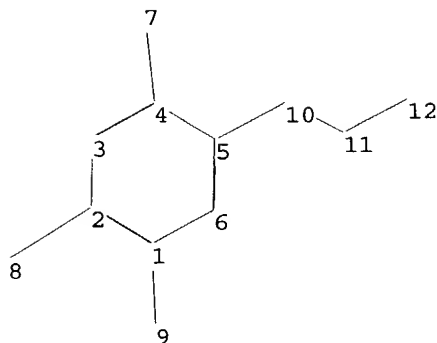
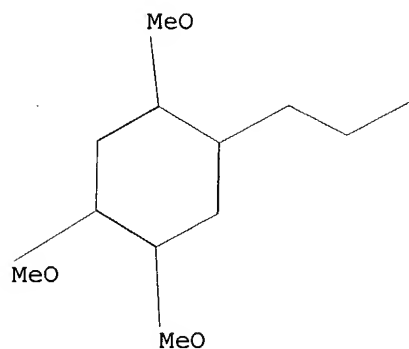
=> screen 1992 OR 2007 OR 2016 OR 2021 OR 2026 OR 1929 OR 1839

L1 SCREEN CREATED

=>

Uploading C:\Program Files\Stnexp\Queries\10660556b.str

10/660,556



chain nodes :
7 8 9 10 11 12
ring nodes :
1 2 3 4 5 6
chain bonds :
1-9 2-8 4-7 5-10 10-11 11-12
ring bonds :
1-2 1-6 2-3 3-4 4-5 5-6
exact bonds :
1-9 2-8 4-7 5-10 10-11 11-12
normalized bonds :
1-2 1-6 2-3 3-4 4-5 5-6
isolated ring systems :
containing 1 :

Match level :
1:Atom 2:Atom 3:Atom 4:Atom 5:Atom 6:Atom 7:CLASS 8:CLASS 9:CLASS 10:CLASS
11:CLASS 12:CLASS

L2 STRUCTURE UPLOADED

=> que L2 NOT L1

L3 QUE L2 NOT L1

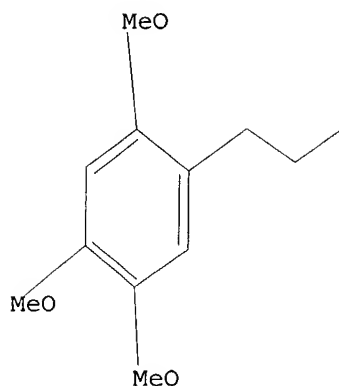
=> d

L3 HAS NO ANSWERS

L1 SCR 1992 OR 2007 OR 2016 OR 2021 OR 2026 OR 1929 OR 1839

L2 STR

10/660,556



Structure attributes must be viewed using STN Express query preparation.

L3 QUE L2 NOT L1

=> s l3 ful

FULL SEARCH INITIATED 06:44:46 FILE 'REGISTRY'

FULL SCREEN SEARCH COMPLETED - 94 TO ITERATE

100.0% PROCESSED 94 ITERATIONS

7 ANSWERS

SEARCH TIME: 00.00.01

L4 7 SEA SSS FUL L2 NOT L1

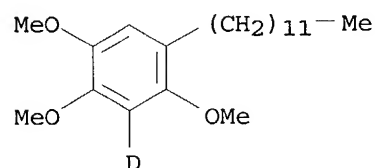
=> d scan 1-7

'1-7' IS NOT A VALID FORMAT FOR FILE 'REGISTRY'

L4 7 ANSWERS REGISTRY COPYRIGHT 2004 ACS on STN

IN Benzene-d, 3-dodecyl-2,5,6-trimethoxy- (9CI)

MF C21 H35 D O3



The following are valid formats:

Substance information can be displayed by requesting individual fields or predefined formats. The predefined substance formats are: (RN = CAS Registry Number)

REG - RN
SAM - Index Name, MF, and structure - no RN
FIDE - All substance data, except sequence data
IDE - FIDE, but only 50 names
SQIDE - IDE, plus sequence data
SQIDE3 - Same as SQIDE, but 3-letter amino acid codes are used
SQD - Protein sequence data, includes RN

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SQD3 - Same as SQD, but 3-letter amino acid codes are used
SQN - Protein sequence name information, includes RN

CALC - Table of calculated properties
EPROP - Table of experimental properties
PROP - EPROP and CALC

Any CA File format may be combined with any substance format to obtain CA references citing the substance. The substance formats must be cited first. The CA File predefined formats are:

ABS -- Abstract
APPS -- Application and Priority Information
BIB -- CA Accession Number, plus Bibliographic Data
CAN -- CA Accession Number
CBIB -- CA Accession Number, plus Bibliographic Data (compressed)
IND -- Index Data
IPC -- International Patent Classification
PATS -- PI, SO
STD -- BIB, IPC, and NCL

IABS --ABS, indented, with text labels
IBIB -- BIB, indented, with text labels
ISTD -- STD format, indented

OBIB ----- AN, plus Bibliographic Data (original)
OIBIB ----- OBIB, indented with text labels

SBIB ----- BIB, no citations
SIBIB ----- IBIB, no citations

The ALL format gives FIDE BIB ABS IND RE, plus sequence data when it is available.

The MAX format is the same as ALL.

The IALL format is the same as ALL with BIB ABS and IND indented, with text labels.

For additional information, please consult the following help messages:

HELP DFIELDS -- To see a complete list of individual display fields.
HELP FORMATS -- To see detailed descriptions of the predefined formats.
HOW MANY MORE ANSWERS DO YOU WISH TO SCAN? (1):end

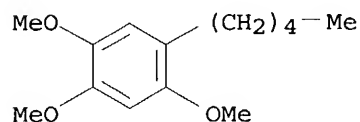
=> dscan

DSCAN IS NOT A RECOGNIZED COMMAND

The previous command name entered was not recognized by the system.
For a list of commands available to you in the current file, enter "HELP COMMANDS" at an arrow prompt (=>).

=> d scan

L4 7 ANSWERS REGISTRY COPYRIGHT 2004 ACS on STN
IN Benzene, 1,2,4-trimethoxy-5-pentyl- (9CI)
MF C14 H22 O3

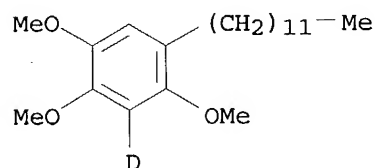


10/660,556

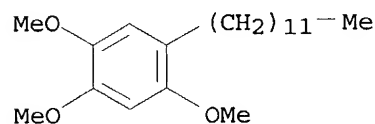
PROPERTY DATA AVAILABLE IN THE 'PROP' FORMAT

HOW MANY MORE ANSWERS DO YOU WISH TO SCAN? (1):6

L4 7 ANSWERS REGISTRY COPYRIGHT 2004 ACS on STN
IN Benzene-d, 3-dodecyl-2,5,6-trimethoxy- (9CI)
MF C21 H35 D O3

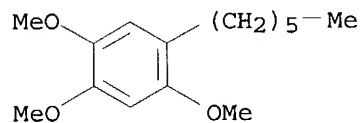


L4 7 ANSWERS REGISTRY COPYRIGHT 2004 ACS on STN
IN Benzene, 1-dodecyl-2,4,5-trimethoxy- (9CI)
MF C21 H36 O3



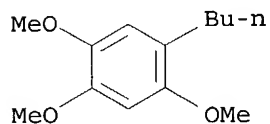
PROPERTY DATA AVAILABLE IN THE 'PROP' FORMAT

L4 7 ANSWERS REGISTRY COPYRIGHT 2004 ACS on STN
IN Benzene, 1-hexyl-2,4,5-trimethoxy- (9CI)
MF C15 H24 O3



PROPERTY DATA AVAILABLE IN THE 'PROP' FORMAT

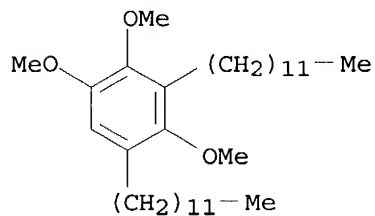
L4 7 ANSWERS REGISTRY COPYRIGHT 2004 ACS on STN
IN Benzene, 1-butyl-2,4,5-trimethoxy- (9CI)
MF C13 H20 O3



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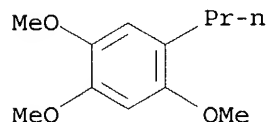
PROPERTY DATA AVAILABLE IN THE 'PROP' FORMAT

L4 7 ANSWERS REGISTRY COPYRIGHT 2004 ACS on STN
IN Benzene, 1,3-didodecyl-2,4,5-trimethoxy- (9CI)
MF C33 H60 O3



PROPERTY DATA AVAILABLE IN THE 'PROP' FORMAT

L4 7 ANSWERS REGISTRY COPYRIGHT 2004 ACS on STN
IN Benzene, 1,2,4-trimethoxy-5-propyl- (7CI, 8CI, 9CI)
MF C12 H18 O3



PROPERTY DATA AVAILABLE IN THE 'PROP' FORMAT

ALL ANSWERS HAVE BEEN SCANNED

=>Testing the current file.... screen

ENTER SCREEN EXPRESSION OR (END):end

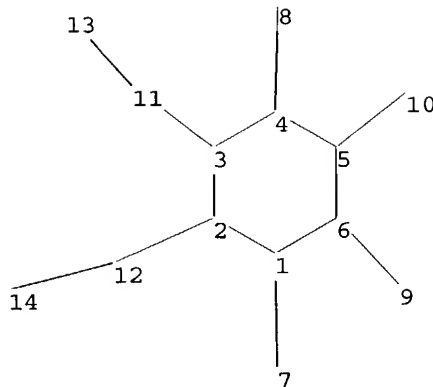
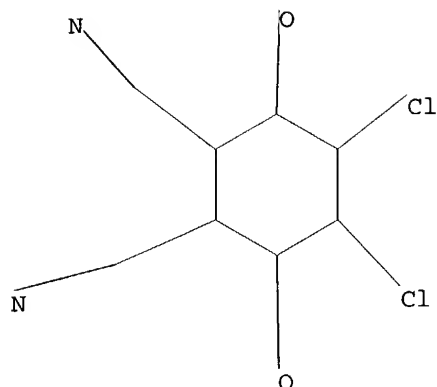
=> screen 1994 OR 2006 OR 2016 OR 2021 OR 2026 OR 1938 OR 1968 OR 1985 OR 1839

L5 SCREEN CREATED

=>

Uploading C:\Program Files\Stnexp\Queries\10660556a.str

10/660,556



chain nodes :
7 8 9 10 11 12 13 14
ring nodes :
1 2 3 4 5 6
chain bonds :
1-7 2-12 3-11 4-8 5-10 6-9 11-13 12-14
ring bonds :
1-2 1-6 2-3 3-4 4-5 5-6
exact/norm bonds :
1-7 4-8 11-13 12-14
exact bonds :
1-2 1-6 2-3 2-12 3-4 3-11 4-5 5-6 5-10 6-9
isolated ring systems :
containing 1 :

Match level :
1:Atom 2:Atom 3:Atom 4:Atom 5:Atom 6:Atom 7:CLASS 8:CLASS 9:CLASS 10:CLASS
11:CLASS 12:CLASS 13:CLASS 14:CLASS

L6 STRUCTURE UPLOADED

=> que L6 NOT L5

L7 QUE L6 NOT L5

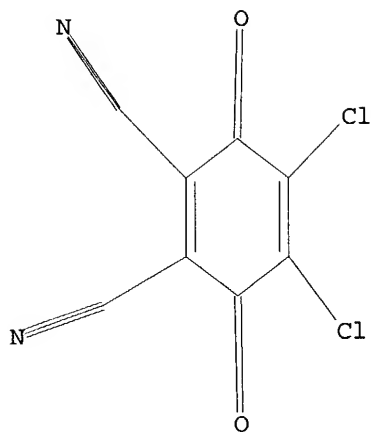
=> d

L7 HAS NO ANSWERS

L5 SCR 1994 OR 2006 OR 2016 OR 2021 OR 2026 OR 1938 OR 1968 O
R 1985 OR 1839

L6 STR

10/660,556



Structure attributes must be viewed using STN Express query preparation.
L7 QUE L6 NOT L5

=> s l7 ful
FULL SEARCH INITIATED 06:46:56 FILE 'REGISTRY'
FULL SCREEN SEARCH COMPLETED - 178 TO ITERATE

100.0% PROCESSED 178 ITERATIONS 165 ANSWERS
SEARCH TIME: 00.00.01

L8 165 SEA SSS FUL L6 NOT L5

=> s l7 ful css
FULL SEARCH INITIATED 06:47:07 FILE 'REGISTRY'
FULL SCREEN SEARCH COMPLETED - 178 TO ITERATE

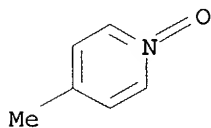
100.0% PROCESSED 178 ITERATIONS 165 ANSWERS
SEARCH TIME: 00.00.01

L9 165 SEA CSS FUL L6 NOT L5

=> d scan

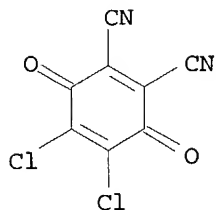
L9 165 ANSWERS REGISTRY COPYRIGHT 2004 ACS on STN
IN 1,4-Cyclohexadiene-1,2-dicarbonitrile, 4,5-dichloro-3,6-dioxo-, compd.
with 4-methylpyridine 1-oxide (1:1) (9CI)
MF C8 Cl2 N2 O2 . C6 H7 N O

CM 1



CM 2

10/660,556



HOW MANY MORE ANSWERS DO YOU WISH TO SCAN? (1):0

=> d his

(FILE 'HOME' ENTERED AT 06:40:02 ON 16 MAR 2004)

FILE 'STNGUIDE' ENTERED AT 06:40:30 ON 16 MAR 2004

FILE 'REGISTRY' ENTERED AT 06:44:00 ON 16 MAR 2004

| | |
|----|---|
| L1 | SCREEN 1992 OR 2007 OR 2016 OR 2021 OR 2026 OR 1929 OR 18 |
| L2 | STRUCTURE UPLOADED |
| L3 | QUE L2 NOT L1 |
| L4 | 7 S L3 FUL |
| L5 | SCREEN 1994 OR 2006 OR 2016 OR 2021 OR 2026 OR 1938 OR 19 |
| L6 | STRUCTURE UPLOADED |
| L7 | QUE L6 NOT L5 |
| L8 | 165 S L7 FUL |
| L9 | 165 S L7 FUL CSS |

=> file caplus uspatful

COST IN U.S. DOLLARS

| SINCE FILE | TOTAL |
|------------|---------|
| ENTRY | SESSION |
| 467.94 | 468.51 |

FULL ESTIMATED COST

FILE 'CAPLUS' ENTERED AT 06:48:06 ON 16 MAR 2004

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FILE 'USPATFULL' ENTERED AT 06:48:06 ON 16 MAR 2004

CA INDEXING COPYRIGHT (C) 2004 AMERICAN CHEMICAL SOCIETY (ACS)

=> s l4

L10 19 L4

=> s l8

L11 1777 L8

=> s l10 and l11

L12 8 L10 AND L11

=> d 1-8 bib ab

L12 ANSWER 1 OF 8 CAPLUS COPYRIGHT 2004 ACS on STN

AN 2003:777737 CAPLUS

DN 139:292100

TI Formation of neolignan by DDQ mediated dimerization of dihydroasarone

IN Sinha, Arun Kumar; Joshi, Bhupendra Prasad; Acharya, Ruchi

PA Council of Scientific and Industrial Research, India

SO PCT Int. Appl., 37 pp.

CODEN: PIXXD2

10/660,556

DT Patent
LA English
FAN.CNT 1

| | PATENT NO. | KIND | DATE | APPLICATION NO. | DATE |
|----|---------------|--|----------|-----------------|----------|
| PI | WO 2003080551 | A1 | 20031002 | WO 2002-IN73 | 20020327 |
| | W: | AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NO, NZ, OM, PH, PL, PT, RO, RU, SD, SE, SG, SI, SK, SL, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VN, YU, ZA, ZM, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM | | | |
| | RW: | GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZM, ZW, AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, TR, BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG | | | |

PRAI WO 2002-IN73 20020327

OS CASREACT 139:292100

AB The present invention relates to a novel neolignan 3-ethyl-2-methyl-3-(2'',4'',5''-trimethoxyphenyl)-1-(2',4',5'-trimethoxyphenyl)-1-propene and a process for the preparation of high purity, high yield neolignan, α -asarone, and 2,4,5-trimethoxyphenylpropionone from β -asarone or β -asarone rich Acorus calamus oil containing α - and γ -asarone by hydrogenating and dimerizing by treatment with DDQ in presence of an organic acid.

RE.CNT 4 THERE ARE 4 CITED REFERENCES AVAILABLE FOR THIS RECORD
ALL CITATIONS AVAILABLE IN THE RE FORMAT

L12 ANSWER 2 OF 8 CAPLUS COPYRIGHT 2004 ACS on STN

AN 2003:777446 CAPLUS

DN 139:292099

TI DDQ-mediated one step dimerization of β -asarone or β -asarone rich Acorus calamus oil in the formation of novel neolignan

IN Sinha, Arun Kumar; Joshi, Bhupendra Prasad; Acharya, Ruchi

PA Council of Scientific & Industrial Research, India

SO U.S. Pat. Appl. Publ., 20 pp.

CODEN: USXXCO

DT Patent
LA English

FAN.CNT 1

| | PATENT NO. | KIND | DATE | APPLICATION NO. | DATE |
|------|----------------|------|----------|-----------------|----------|
| PI | US 2003187306 | A1 | 20031002 | US 2002-108269 | 20020328 |
| | US 2004049085 | A1 | 20040311 | US 2003-660556 | 20030912 |
| PRAI | US 2002-108269 | B3 | 20020328 | | |

OS CASREACT 139:292099

AB The present invention relates to a novel neolignan, 3-ethyl-2-methyl-3-(2'',4'',5''-trimethoxyphenyl)-1-(2',4',5'-trimethoxyphenyl)-1-(2',4',5'-trimethoxy)phenyl-1-propene [NEOLASA-I (I)], and a process for the preparation of high purity, higher yield neolignan, α -asarone, 2,4,5-trimethoxy-phenylpropionone from β -asarone (II) or β -asarone rich Acorus calamus oil containing α - and γ -asarone by hydrogenating and dimerizing by treatment with DDQ in presence of an organic acid.

L12 ANSWER 3 OF 8 CAPLUS COPYRIGHT 2004 ACS on STN

AN 2003:524051 CAPLUS

DN 139:90404

TI Process for the preparation of pharmacologically active α -asarone from toxic β -asarone-rich Acorus calamus oil

IN Sinha, Arun Kumar; Joshi, Bhupendra Prasad; Acharya, Ruchi

PA Council of Scientific & Industrial Research, India

10/660,556

SO U.S., 22 pp.
CODEN: USXXAM

DT Patent
LA English

FAN.CNT 1

| | PATENT NO. | KIND | DATE | APPLICATION NO. | DATE |
|----|---|------|----------|-----------------|----------|
| PI | US 6590127 | B1 | 20030708 | US 2002-107844 | 20020328 |
| | WO 2003082786 | A1 | 20031009 | WO 2002-IN94 | 20020328 |
| | W: AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NO, NZ, OM, PH, PL, PT, RO, RU, SD, SE, SG, SI, SK, SL, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VN, YU, ZA, ZM, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM | | | | |
| | RW: GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZM, ZW, AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, TR, BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG | | | | |

PRAI US 2002-107844 A 20020328

AB The present invention relates to a process for the preparation of high purity and yield α -asarone, trans-2,4,5-trimethoxycinnamaldehyde, and 2,4,5-trimethoxyphenylpropanone, from β -asarone or β -asarone-rich Acorus calamus oil containing α and γ -asarone by hydrogenation, followed by treatment with a dehydrogenating agent dichlorodicyanobenzoquinone (DDQ) with or without solid support of silica gel or alumina in dry organic solvent. α -Asarone can also be obtained by treating the hydrogenated product of β -asarone or β -asarone-rich A. calamus oil with DDQ in an aqueous organic solvent to obtain an intermediate 2,4,5-trimethoxyphenylpropanone, which in turn is reduced with sodium borohydride to obtain the corresponding 2,4,5-trimethoxyphenylpropanol and followed by final treatment with a dehydrating agent.

RE.CNT 91 THERE ARE 91 CITED REFERENCES AVAILABLE FOR THIS RECORD
ALL CITATIONS AVAILABLE IN THE RE FORMAT

L12 ANSWER 4 OF 8 CAPLUS COPYRIGHT 2004 ACS on STN

AN 2002:717107 CAPLUS

DN 137:234008

TI Production of substituted trans-cinnamaldehydes and yellow dyes from phenylpropane derivatives

IN Sinha, Arun Kumar; Joshi, Bhupendra Prasad; Dogra, Ruchi

PA India

SO U.S. Pat. Appl. Publ., 15 pp.

CODEN: USXXCO

DT Patent

LA English

FAN.CNT 1

| | PATENT NO. | KIND | DATE | APPLICATION NO. | DATE |
|----|--|------|----------|------------------|----------|
| PI | US 2002133045 | A1 | 20020919 | US 2001-805832 | 20010314 |
| | US 6566557 | B2 | 20030520 | | |
| | GB 2373252 | A1 | 20020918 | GB 2001-6430 | 20010315 |
| | DE 10113506 | A1 | 20020926 | DE 2001-10113506 | 20010320 |
| | BR 2001003269 | A | 20021203 | BR 2001-3269 | 20010322 |
| | FR 2822473 | A1 | 20020927 | FR 2001-3984 | 20010323 |
| | WO 2002072709 | A1 | 20020919 | WO 2001-IN104 | 20010521 |
| | W: AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, BZ, CA, CH, CN, CR, CU, CZ, DE, DK, DM, DZ, EE, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NO, NZ, PL, PT, RO, RU, SD, SE, SG, SI, SK, SL, TJ, TM, TR, TT, TZ, UA, UG, US, UZ, VN, | | | | |

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YU, ZA, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM
RW: GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZW, AT, BE, CH, CY,
DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, TR, BF,
BJ, CF, CG, CI, CM, GA, GN, GW, ML, MR, NE, SN, TD, TG

PRAI US 2001-805832 A 20010314

OS CASREACT 137:234008; MARPAT 137:234008

AB The invention relates to the production of substituted trans-cinnamaldehydes (I, R1 = trans-CH:CHCHO; R2, R3, R4, R5, R6 = H, alkyl, alkoxy, or adjacent groups may form methylenedioxy) by oxidizing the corresponding phenylpropane derivs. using an oxidizing agent such as 2,3-dichloro-5,6-dicyano-1,4-benzoquinone (DDQ), p-chloranil, pyridinium chlorochromate, tert-BuOOH, or CrO3 with a catalytic amount of inorg./organic acid (optionally on alumina, celite, and silica gel as a solid support for microwave irradiation); the trans-cinnamaldehydes and natural yellow dyes are obtained in high yield ranging from 68-82%. In an example, yellow 2,4,5-trimethoxycinnamaldehyde was obtained in 84% yield by oxidation of 1-(2,4,5-trimethoxyphenyl)propane in the presence of DDQ and acetic acid.

L12 ANSWER 5 OF 8 CAPLUS COPYRIGHT 2004 ACS on STN

AN 2002:710993 CAPLUS

DN 137:249076

TI Process for preparation of substituted trans-cinnamaldehyde, a natural yellow dye, from phenylpropane derivatives

IN Sinha, Arun Kumar; Joshi, Virendara Prasad; Dogura, Ruci

PA Council of Scientific & Industrial Research, India

SO Jpn. Kokai Tokkyo Koho, 45 pp.

CODEN: JKXXAF

DT Patent

LA Japanese

FAN.CNT 1

| | PATENT NO. | KIND | DATE | APPLICATION NO. | DATE |
|------|---------------|------|----------|-----------------|----------|
| PI | JP 2002265407 | A2 | 20020918 | JP 2001-68716 | 20010312 |
| PRAI | JP 2001-68716 | | 20010312 | | |

OS CASREACT 137:249076; MARPAT 137:249076

AB A simple and economical process to convert phenylpropane derivs. into corresponding cinnamaldehyde derivs. comprises oxidizing substituted phenylpropane derivs. in presence of a solvent and a catalyst using an oxidizing agent in a mole ratio of 1:1 to 1:8 to the phenylpropane derivs. at a temperature between -15° to 210° for a period of 30 min to 48 h, removing the solvent under reduced pressure and isolating the product to obtain 68-82% of trans-cinnamaldehydes. Thus, a flask containing a mixture of 4-methoxyphenylpropane 2, silica gel 0.5-0.8, 2,3-dichloro-5,6-dicyano-1,4-benzoquinone (DDQ) 7.5 g and 5-8 mL dioxane was placed inside a microwave oven operating at medium power (600 W) and irradiated for 2-8 min to give 68% 4-methoxycinnamaldehyde.

L12 ANSWER 6 OF 8 USPATFULL on STN

AN 2003:266288 USPATFULL

TI DDQ mediated one step dimerisation of beta-asarone or beta-asarone rich acorus calamus oil in the formation of novel neolignan

IN Sinha, Arun Kumar, Himachal Pradesh, INDIA

Joshi, Bhupendra Prasad, Himachal Pradesh, INDIA

Acharya, Ruchi, Himachal Pradesh, INDIA

PA Council of Scientific & Industrial Research (non-U.S. corporation)

PI US 2003187306 A1 20031002

AI US 2002-108269 A1 20020328 (10)

DT Utility

FS APPLICATION

LREP FOLEY AND LARDNER, SUITE 500, 3000 K STREET NW, WASHINGTON, DC, 20007

CLMN Number of Claims: 22

ECL Exemplary Claim: 1

10/660,556

DRWN 9 Drawing Page(s)

LN.CNT 1004

CAS INDEXING IS AVAILABLE FOR THIS PATENT.

AB The present invention relates to a novel neolignan (NEOLASA-I) 3-ethyl-2-methyl-3-(2",4",5"-trimethoxy-phenyl-1-(2',4',5'-trimethoxy)phenyl-1-(2',4',5'-trimethoxy)phenyl-1-propene and a process for the preparation of high purity, higher yield neolignan, α -asarone, 2,4,5-trimethoxy-phenyl propionone from β -asarone or β -asarone rich Acorus calamus oil containing α and γ -asarone by hydrogenating and dimerizing by treatment with DDQ in presence of an organic acid.

L12 ANSWER 7 OF 8 USPATFULL on STN

AN 2003:184167 USPATFULL

TI Process for the preparation of pharmacologically active α -asarone from toxic β -asarone rich acorus calamus oil

IN Sinha, Arun Kumar, Himachal Pradesh, INDIA
Joshi, Bhupendra Prasad, Himachal Pradesh, INDIA
Acharya, Ruchi, Himachal Pradesh, INDIA

PA Council of Scientific & Industrial Research, New Delhi, INDIA (non-U.S. corporation)

PI US 6590127 B1 20030708

AI US 2002-107844 20020328 (10)

DT Utility

FS GRANTED

EXNAM Primary Examiner: Richter, Johann; Assistant Examiner: Witherspoon, Sikarl A.

LREP Foley & Lardner

CLMN Number of Claims: 22

ECL Exemplary Claim: 1

DRWN 8 Drawing Figure(s); 8 Drawing Page(s)

LN.CNT 1440

CAS INDEXING IS AVAILABLE FOR THIS PATENT.

AB The present invention relates to a process for the preparation of high purity and yield α -asarone, trans 2,4,5-trimethoxy cinnamaldehyde, 2,4,5-trimethoxy-phenyl propionone, from β -asarone or β -asarone rich Acorus calamus oil containing α and γ -asarone by hydrogenating, followed by treatment with DDQ with or without solid support of silica gel or alumina in dry organic solvent and α -asarone can also be obtained by treating the hydrogenated product of β -asarone or β -asarone rich Acorus calamus with DDQ in an aqueous organic solvent to obtain an intermediate 2,4,5-trimethoxy phenyl propionone, which in turn is reduced with sodiumborohydride to obtain the corresponding 2,4,5-trimethoxy-phenyl propanol and followed by final treatment with a dehydrating agent.

L12 ANSWER 8 OF 8 USPATFULL on STN

AN 2002:243851 USPATFULL

TI Process for the preparation of substituted trans-cinnamaldehyde, a natural yellow dye, from phenylpropane derivatives

IN Sinha, Arun Kumar, Palampur, INDIA
Joshi, Bhupendra Prasad, Palampur, INDIA
Dogra, Ruchi, Palampur, INDIA

PI US 2002133045 A1 20020919

US 6566557 B2 20030520

AI US 2001-805832 A1 20010314 (9)

DT Utility

FS APPLICATION

LREP Allan Ratner, Ratner & Prestia, One Westlakes, Berwyn, Suite 301, P.O. Box 980, Valley Forge, PA, 19482-0980

CLMN Number of Claims: 23

ECL Exemplary Claim: 1

10/660,556

DRWN 4 Drawing Page(s)

LN.CNT 1038

CAS INDEXING IS AVAILABLE FOR THIS PATENT.

AB The present invention relates to the preparation of substituted trans-cinnamaldehyde, a natural yellow dye from Phenylpropane derivatives having R.sub.2-R.sub.3-R.sub.4-R.sub.5-R.sub.6 substitution, wherein R.sub.2 to R.sub.6 equal or different, being hydrogen or hydroxy or acyl or halogen or alkyl or heterocyclic or aryl or dioxymethylene or alkoxy groups, etc., by oxidizing the said phenylpropane derivatives using a oxidising agent such as 2,3-dichloro-5,6-dicyano-1,4-benzoquinone (DDQ) or p-chloranil or pyridinium chlorochromate (PCC) or tBuOOH or or CrO.sub.3 with a catalytic amount of inorganic/organic acid or alumina, celite, and silica gel as a solid support for microwave irradiation and thus substituted trans-cinnamaldehydes, a natural yellow dye, are obtained in high yield ranging from 68-82%.